

HAMATEUR CHATTER

The Milwaukee Radio Amateurs Club

September 2013 Volume 21, Issue 9

One of the World's Oldest Continuously Active Radio Amateur Clubs—since 1917

Presidents' Letter

September starts our new year of meetings. The board is working hard to find programs for the upcoming meetings. As you can imagine, this is not an easy task for us. We do need your help with topics that you would like to see. If you have a topic or know someone who does have a topic please let us know. While a topic about ham radio is good, we shouldn't limit ourselves to just that. There are many topics that could lend themselves well to an organization like ours. We had a huge turn out a few years ago for the solar energy and electric car presentations.

We really need to get more members involved in the organization. I know that I am running out of time to handle everything that I currently handle. It would be nice to have more committees doing some of the work. I know this is a trend in most organizations that fewer and fewer step up and help with activities. However we really need to stop that from happening. The more we spread out the work the the easier it is for everyone.

One of the things I plan on doing this year is to keep the business part of the meeting shorter and give more time for socializing. I do believe that people come to the meetings to socialize instead of listening to club business. I would like to use some of the time for question and answer. Believe me I don't like to just stand there and talk about things you don't want to hear.

Remember our next meeting is September 26th.

Got Water?

Has the water run dry in your [emergency supply kit](#)? If so, it's time to fill 'er up! One of the most essential components of a disaster-ready kit is water. A well maintained kit prepares you before disaster strikes.

After an emergency, clean drinking water may not be available if your usual water source is cut off or contaminated. When replenishing your supply remember that individual needs may vary depending on health, age, diet and climate. As a general rule, store one gallon of water per person per day to last for at least three days.

There are several options for building your water supply. The safest and most reliable choice is to buy commercially bottled water and open it only when you need to use it. [Store the containers in a cool, dark place](#) and note the expiration date.

If you choose to prepare your own containers of water, purchase food grade water storage containers from a surplus or camping supply store or two-liter plastic soda bottles - not bottles that contained milk or fruit juice. Keep in mind these containers must first be [properly cleaned](#)!



MRAC Officers:

Terms Expiring in 2014

- President – Dave, KA9WXN
- V-President– Dan, N9ASA
- Secretary – Mike, KC9CMT
- Treasurer – Joe, N9UX
- Director – Vacant

Terms Expiring in 2015

- Director – Al, KC9IJJ
- Director – Hal, KB9OZN

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www.w9rh.org

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Board of directors meeting called to order at 7:05 pm by Dave Shank, KA9WXN club president.

Director's present: Michael KC9CMT, Dave KA9WXN, Joe, N9UX, Dan, N9ASA, Hal, KB9OZN.

Absent: Al, KC9IJJ. There is one vacancy on the Board of Director's.

The Board of Director's minutes were accepted as published in the July Chatter by a motion forwarded by Michael, KC9CMT seconded by Joe, N9UX. The Treasurers report was given by Joe, N9UX. The June balance ended with \$19,850 in our Club accounts. Dave DeFebo, WB9BWP the MRAC historian reported some expenses for the month of August. He has been sending information to the ARRL regarding our Anniversary, the 100th is upcoming in four years. Joe, N9UX reports that AT&T has been sending the club informational letters on fiber optics instead of DSL. (A notice of update form letter).

Meeting programs: The September meeting will be on what radio specifications mean to the radio user. Dave, KA9WXN will be giving this program as of this date. Many members have oscilloscopes and do not have the technical training to take measurements with these complicated devices. This subject will be covered in the very near future. The October meeting falls on Halloween this year and is still open for suggestions. The November membership meeting will be the 21st due to the thanksgiving holiday. The Board of Directors meeting will be the same week. Jeff Annis, K9BS would be happy to give his antenna modeling presentation. The subject of a program on how to find information and course work on the internet in the electronics field would make a good presentation. How to use a MFJ-269 antenna analyzer would also be a good topic for the November meeting. There will be no meetings held in December due to the holidays. The January 2014 meeting topic is still open. A program on the digital mobile radio (DMR) could be put together. N9GMT may do a presentation on mobile HF radio operation.

Field Day: It was wet this year at Greenfield's Konkel park. The fire chief paid a visit to our site. The city mayor was at the farmers market. The MRAC had many CW contacts this year. A preliminary report was given at the June membership meeting. The club racked up some bonus points again this year. There was a 6 meter opening during the weekend that helped. Pat Hoppe wants to come back again next year with his group from Gateway Technical College in Racine. The site is already reserved for the 2014 Field day event. Mark, AB9CD operated a station from Pioneer Village. The MRAC club president has most of the gear from Pioneer Village in his garage now. The club still needs to clean up the basement storage area of miscellaneous items. \$91.11 were spent as club expenses this year at Field day. The old Kenwood field day radio was sold along with the beam antenna. The club would like to buy a rotator for use at field day.

Club Picnic: 41 people were at the picnic this year on August 10th at the Greenfield Park recreation area number 2.

Special Project Committees & Committee reports:

Repeater Report: Dave, WB9BWP is the repeater trustee. The club would like more than one repeater trustee. We need to ask for volunteers at the membership meeting. Currently the repeater is running on battery power to drain the batteries in preparation for maintenance. The batteries are being tested for efficiency of operation.

New Business: There more than likely will be no more AES SuperFest in 2014. All the areas available at AES have now been rented out to other vendors. A manufacturers day may be what takes place in 2015, with AES doing all the advertising. Questions are being asked about where to have this event in the future. All the clubs in the Milwaukee Area will be asked to underwrite this event. Preliminary figures suggest that each club would pitch in \$500 to \$1,000. The AES SuperFest will change to a full Hamfest without the AES name involved. Would this be a multi-day event. The club is planning to send another annual donation to the ARRL Spectrum Defense fund. The club will be sending the Spectrum Defense Fund \$200 this year.

Education Committee: The club would like to start having classes for ham upgrades and radio operation. Dave, KA9WXN would like to start a committee to work on this. The club president will bring the subject up at the membership meeting in September.

Ham radio is on the rise numbers wise, with more retirees and younger people entering the hobby, due to the influx of cheap Chinese Ham Radios for sale. The club needs PR and recruitment. Having a ARRL convention in Milwaukee, sponsored by the MRAC in conjunction with the clubs 100th anniversary, would be a big event and draw people from all over the Midwest. It would take 5 years plus to organize a national convention. Our club the MRAC, should also be promoting the 10-10 club which is a nation wide club devoted to the 10 meter band.

Clubs throughout the country need to use the spectrum that they have been given. Both 440 & 220 are not used very often in the Milwaukee area. The club should promote the use of these bands to keep the spectrum alive. We already promote the 10-10 international radio club.

Special Projects: The club needs someone to take over the FM simplex contest for February of 2014. What club swapfest will the club be manning tables at? Definitely, the West Allis ARC swapfest in January. All others are optional.

A motion was made to adjourn the meeting at 8:34 pm by Dan, N9ASA seconded by Michael, KC9CMT. Meeting adjourned at 8:18 pm. The room was returned to an organized condition as it was when the room was opened.

Watch Out for Fall Driving Hazards

Sure, it's lovely out -- but be aware of the dangers of driving in autumn's quick-changing conditions

By Nigel Knowlton

When most drivers think of fall driving, they conjure up a near-idyllic driving experience complete with colorful fall foliage, empty highways and clear, cool days. Many fall days indeed live up to this classic description, but those picture-perfect days have a way of changing quickly during autumn. Fall weather is often unpredictable and driving conditions can change from perfect to miserable within minutes. Additionally, during fall decreased daylight brought on by a return to Standard Time from Daylight Savings Time means that many of us will be commuting to and from work in darkness. Instead of being one of the better times of the year for driving, fall is actually one of the more treacherous times of the year to be on the highway. Vigilance is required if safety is to be maintained -- and the first place to start is in the driveway, before you hit the road.

Before starting on any trip, it is always a good idea to give your vehicle a pre-drive inspection. Make sure the tires are properly inflated and show plenty of tread, check to see all lights and turn indicators are working properly and make sure the engine has the correct fluid levels.

If you park your car outside, you've probably noticed that a warm body entering a cold car interior causes the windows to fog up. Clear all windows before you leave the driveway by running the defroster on high or wiping off the glass. Clean windows are essential for safety; even a small, fogged quarter window can severely limit visibility, especially when backing out into the street. Fog also tends to form on the exterior mirrors, so wipe those off while the other windows are clearing.

Once out on the highway, it is imperative to pay attention to weather and road conditions. Frosty patches, fog, black ice, rain, hail, sleet and falling leaves all present hazards to the unwary. Here's a checklist of fall driving hazards:

Bridges freeze first – During fall and winter months, bridges can be very dangerous. Because they are exposed to weather on both top and bottom, they will freeze over before the rest of the road, and you may not be able to tell until it is too late. Use caution when transiting from the pavement to a bridge surface by steering smoothly, staying off the throttle and braking gingerly.

Frost – When Jack Frost visits your living room window the effect can be magical. When he visits a shady patch of highway around a blind corner, the effects are often deadly. Use caution if your driving route takes you over bridges, down tree-lined streets, or anywhere else shadows cross dew-laden highways.

Black ice – It's called black ice because it is invisible, as the black pavement underneath shows through and looks as dry as the rest of the road.

Black ice usually forms below overpasses, on bridges, in shaded areas and where there is water running across the pavement. Because black ice is invisible, it is exceptionally dangerous and a driver who has been driving on clear pavement will be caught unaware. If you live in an area where frost occurs, black ice is always a possibility. Use extreme caution when driving on cold mornings where there is evidence of frozen moisture on the roadway.

Rain – Fall rainstorms often tend to be sudden and heavy. Early fall storms are the worst from a driving perspective because highways that have a summer's worth of oil and rubber buildup from traffic become extremely slick when suddenly soaked. It usually takes a couple of really good downpours to wash this buildup away and in the interim the roadway is especially hazardous.

Hydroplaning -- Hydroplaning happens when excessive water buildup on the highway causes a vehicle to "float" on a layer of water. It occurs because the water buildup on the road is greater than the amount of water the tread channels can clear at a given moment. Usually, the hydroplaning lasts only a second or two as the vehicle is passing through a shallow puddle, but during heavy downpours the condition can be endemic. Because a hydroplaning vehicle has no direct contact with the road surface, it is difficult to impossible to steer and brake. In such conditions, slow down and avoid sudden movements of the wheel and quick stabs of the brake that can make your vehicle spin out of control. If you feel a floating feeling while driving on wet roads, steer straight and gently back off the throttle until you feel the tires make contact with road surface. In an especially heavy downpour, pull off the road and wait it out.

Fog -- Usually found in low places or areas surrounded by trees, hills or mountains, fog is statistically the single most dangerous condition a driver can encounter. It can severely limit visibility and change your perception of distance. When encountering fog, even just a small foggy patch in a hollow, slow down. There may be a stalled or slow vehicle hidden behind that wall of white. It is also smart to turn on your headlamps (low beam) or fog lamps to increase your visibility and your chances of being seen by other motorists. Most accidents happen in fog because the driver was going too fast for conditions and rear-ended the vehicle ahead. Slow down to a crawl if necessary, keep your lights on and use extreme caution.

Leaves – As the fall season progresses, deciduous trees lose leaves that end up covering residential streets and country roads. While it is fun to blast through those colored leaves layering the highway, bear in mind that leaves can be slippery, especially when wet. Hard acceleration or braking, and sudden turns should be avoided when running over a pile of leaves, as they can lead to skidding. Additionally, like water, leaves often accumulate in low places. There may be a dip, pothole or other road hazard hiding under those leaves covering the roadway.

Track Patrol

"It isn't as easy as it looks," one Soo Line Track Patrolman once told me. "They (The Soo Line) want you to find the bad spots AND dodge trains at the same time. If they have a wreck on your territory, it's YOUR fault you missed it, even though it might happen on a weekend."

I refer to a job now covered by a man driving either a pick-up truck with Hy-rail wheels, or a Suburban-type vehicle equipped with Hy-Rail wheels, the unappreciated Track Patrolman. Track Patrol has been a fixture on many railroads for a number of years, and what these guys find and look for, varies with the terrain. If, say, the Track Patrolman worked for Union Pacific between Stockton, CA., and Portland, OR., he also keeps an eye out for rocks on the tracks, rock slides, snow drifts, in addition to looking for track defects. On the Milwaukee Road, a gentleman named Jeff Jensen worked Track Patrol between Hyak, WA., and Avery, ID., and part of his job was to be in a specific place along his lonely crossing of the Cascade Mountains to open and close the doors to one of the many tunnels on the Milwaukee's Crossing of the Cascades.

I became aware of Track Patrolmen during my Late Father's tenure on the Soo Line. There was a very nice guy by the name of Mike Kowalski, that traveled the section of the Soo Line from Stevens Point, WI., to Chippewa Falls every day. On Monday, Wednesday and Friday, Mike went TO working, they were still using Fairmont Motor Cars ("Speeders"; if you wish to call them that) to do the job. Mike Kowalski had "duded Up" his motorcar: he had a propane heater in it, electric start, and the entire car was enclosed with steel sides. Even so, Track Patrolmen were "Out in it" every day, in all weather. If it were -20 below zero, with a nasty northwest wind, you were out in it. If it were 90 blistering degrees, you were out in it. If it were a blizzard, you were out in it. If it were Tornado weather, you were out in it. And, you did it by yourself on a Fairmont Motorcar. None the least of your worries was that you got a "Line Up" from the train dispatcher of what trains he could expect were moving against you and in your same direction of travel) on the same track, a piece of paper that often did not reflect how the trains were actually running. It was given to the track patrolman as more of a sort of guide, so he could gauge how fast he should be going and about where he could get to a motorcar set-off or grade crossing, to get the motorcar off the track and get in the clear. Oh, did I forget to mention you had to manually hoist that motorcar ON and OFF the tracks as necessary?

Among all this, you were supposed to be "Inspecting"; the track for "Defects". The list of things these men look for is lengthy, but it includes:

1. Broken rails
 2. High Joints
 3. Pulled-Apart joints.
 4. Sun Kinks
 5. Cracked Joints
 6. Flat Spots caused by sliding wheels when the brakes set up too quickly on some cars but not others.
 7. When you got to a track switch, it was tantamount to make sure the switch points were tight to the rail they were supposed to be thrown to. You also were expected to check the switch blocks in the switch to make certain those said blocks hadn't moved (especially important on "High Speed" switches)
 8. Low Spots
 9. High Spots
 - 10 Rotted Ties
 11. Broken Ties
-and I may have left a number of things out in my list.

This is all to be done while moving along at a nominal 35 mph, in all weather. Some of it you didn't "see", per se, but "Felt" when your motorcar jumped up or down over/through/ across the imperfection in the track. One fellow I was chatting with, working relief for the guy that took Mike Kowalski's place as Track Patrolman, told me, "It's impossible to catch it all rolling along trying to stay ahead of the trains. You hope you do at some point during the week and you don't have a train go all over the countryside in the process."

Of course, like any job, if, in your travel across your assigned territory, you happen upon one of the aforementioned defects, there is paperwork to fill out to note you found this defect, where, at what time, date and year. Defects of larger proportions needing immediate attention was like calling out the National Guard, and your name became muddied by the train crews stranded on either side---because you found something. The Train Dispatcher may end up hating you, too, because you just blew all his carefully planned meets all to hell.

Added in to this list of "Have-to-do's" is that added enjoyment of crossing highways, gravel township roads, county trunks and City Streets. A Motorcar, even equipped with a bright, flashing yellow warning light, seemed to be invisible to many motorists. I can think of a few cases where the lone track patrolman was crossing a highway at grade on his motorcar, after ascertaining the way was clear in both directions,

Trains & Things

only to get splattered by a motorist going far over the posted speed limit. I don't recall any getting killed, but I recall some Hospital Time for a couple. Mike Kowalski always complained of the County Highway 'P' crossing in Clark County. It was at an extreme angle, and hard to see either direction. He was narrowly missed at that spot several times in his career. I can't write this without mentioning the late Mike Monroe. I had met Mike when he was Assistant Road master stationed at Owen, Wis., back around 1973. Mike met an untimely death while doing Track Patrol on the old Wisconsin & Northern line Between Neenah and Argonne, Wis., around 1975 or so. It was a freak accident, that happened on the Menominee Indian reservation. Mike was the track patrolman on the "Argonne Line" as it was called, and the Soo was doing some needed trackwork at the time in the Shawano-Gresham area. A "gang"-type Motorcar proceeded Mike Monroe a few miles ahead, and while crossing through the Indian Reservation, the Section Crew saw three young Braves out hunting rabbits with a .22 rifle. As a joke, when the Section Crew rolled through, the Brave with the rifle raised it in the direction of the Section men on the motorcar. The Section men all ducked, but no shot was fired. Along came Mike Monroe a short time later at 35 mph. Mike never noticed the young braves along the tracks, as he was concentrating on the track, and the one with the rifle took a hip-shot, pot-shot at the back of Mike Monroe's motorcar after it passed. By accident, the bullet pierced the canvas rear cover and through Mike Monroe, piercing his heart, killing him. Mike slumped over, dead, but his motorcar kept putt-putting along until it ran into the larger Gang motorcar in front of the Depot at Gresham. That's when everyone found out Mike Monroe had died.

Welcome to Wisconsin. Track Patrolman here have to contend with all manner of wild animals crossing ahead of their Motorcar. Black Bears, White-tailed deer, skunks, gophers, porcupines, ferrets, weasels, cows that got out of their grazing land, and the occasional Bald Eagle that figures it doesn't have to move. If you have to stop to make a visual inspection, the often-friendly Red Winged Black Bird will be nearby, often hovering overhead, to assure you stay away from it's nest. Sometimes the red winged black bird will play "Bombardier"; and try depositing a load from it's stern atop your head if you're there too long.

Mike Kowalski's career ended suddenly, on an icy March day, in early spring. Mike left Stevens Point following Train #17 (Stevens Point-Park Falls) about a half-mile behind. This was one of those early spring/late winter days, where the melting

snow produced pea-soup fog, caused by a cold front following in behind the warmer air. It was drizzling that morning, and the drizzle froze within 5 minutes to ice. Mike followed # 17 to Auburndale, WI., where # 17 held the main line for a meet with an Extra East. Mike pulled up behind # 17's caboose, set the brakes, and got off and was chatting with the Conductor of # 17, Dick Woods.

As Mike Kowalski headed through Junction City, The Section Gang there was waiting to throw on their motorcar, a push car and assorted tools, to follow Mike and train #17 to Auburndale. The Junction City Section Crew had work to do on the east power switch of the siding there. As soon as Mike disappeared into the fog westbound, the Junction City Section Crew threw all their equipment on the push car, got both push car and motorcar on the track, and took off to beat the time of the Extra East at Auburndale.

Mike Kowalski was standing on the ground, at the caboose step, chatting with conductor Dick Woods. To the east they heard the sound of wheels on rail joints, and both Kowalski and Woods looked up to see the same thing: The Junction City Section crew coming pell-mell out of the fog, hell-bent for election. The Section Foreman of the Junction City Gang didn't see Mike Kowalski's Motor Car standing there until it was too late, and he did set the brakes, but too late. The Junction City Section Crew all jumped off their larger "gang" motor car, which continued sliding until it hit Mike Kowalski's smaller inspection motor car. The radiator of the larger gang car split the gas tank open on Mike's smaller motorcar, spraying gas everywhere, and split the propane line inside sending LP everywhere. Both Motorcars caught fire; the rear brakeman of # 17 came running with the caboose fire extinguisher, only to find it was EMPTY. The call went out for the Auburndale Volunteer Fire Department, who, by the time all the members arrived at the firehouse and got to the scene, it was too late.

After witnessing all this happen in front of him, Mike Kowalski retired on the spot. Had Mike not dismounted and walked over to chat with Dick Woods, Mike would've been killed. This event shook Mike Kowalski to his core. After how many near-misses in his track patrol career, Mike said that was enough when he came that close to death.

Wall Warts & Wall Transformers

Posted by Jim Keith in Power supply

With all the recent mania on capacitor limited power adapters at electroschematics.com, the Wall Wart seems to be the neglected power source. Wall warts are small, convenient and have transformer isolation. With line isolation they are free from ground fault shock hazard. The power level and output voltage is ideal for most experimentation, and difficult to specify or obtain "X" capacitors are not required. It has been suggested that wall transformers were coined "wall warts" because they often take up 2 or 3 positions in a power outlet strip, but I say it is simply because they protrude from the wall like a "wart." The name is simply a humorous alliteration.

What is a wall wart?

It is an electrical outlet mounted transformer-isolated low voltage power supply adapter with power cord and barrel connector (now also USB connector). Virtually all types low power AC operated electronic equipment use them in lieu of batteries. They have no power switch and remain live even when the electronic equipment is turned off. In spite of this, power consumption is low. One with a quiescent power dissipation of 1W consumes 9KWH per year or approximately \$1.00 per year, depending upon cost of power. While there is a cost of use, it is for a very important, necessary function—equipment safety!

Wall wart Specifications

Wall wart adapters come in various voltage and current ratings (typically 6, 9, 12 or 15V). Some have AC output, while most are DC. A few even have regulated output voltage. Usually, the specifications are molded into the plastic case. The power rating runs from about 4 to 25W. Most contain 50/60Hz transformers—these are relatively heavy. Others are small, lightweight off-line switchers with tiny 100kHz+ transformers. Since low frequency transformers are relatively expensive due to both material and labor, the off-line switcher versions are gradually taking over. The switcher also lends itself well to the now popular USB power supply standard that requires a regulated 5V.

In order to get higher power for printers and computers, in-line power packs are often used. Anyone who owns an HP printer knows what I am referring to. These also may be used by experimenters.

Barrel connector

There is no standard barrel connector—there are perhaps 10

different versions that look similar, but have various barrel diameters and internal pin dimensions.

Also, there is no standard polarity—the center pin may be either positive or negative. To accommodate either polarity, it is not uncommon for DC equipment to have a 2nd bridge rectifier inside the unit. The next time you go to your electronics parts store, stock up on a few garden variety barrel connectors and receptacles—they are inexpensive and will make life easier in the future.

Never discard a wall wart

When discarding electronic equipment, save the wall-wart—it may be just what you need to power your next project. Should it be defective, save the cord and connector. Take the advice of a master pack-rat!

The North American Power Plug

While relatively crude by today's international standards, the North American power plug has an interesting 100year history. Before its invention by Hubbell (about 1910), all lights, appliances and equipment were hard-wired to the electrical mains—rather unthinkable today.

While a brilliant inventor, I am sure that Harvey Hubbell never imagined the wall wart. In his era, there was no need for such a device as just about all equipment was big and klunky, and required lots of power.

Failure Modes

Open primary winding—very common failure mode, especially in 220VAC versions—discard!

End-of-life thermal fuse—this often strange looking, bullet-shaped device opens once and for all upon excessive temperature. It generally means that the transformer has a shorted winding—discard!

Open bridge rectifier—this has happened to me more than once—easy to repair

Open fuse—some have an internal lead-mounted fuse that is easy to repair

Broken wire at strain relief—very common failure—repairable, but generally uglified in appearance

Defective switcher—generally not repairable—discard! Perhaps save the little transformer, inductors, X capacitor opto-coupler and cord for future experimentation.

Repairing the wall wart

Probably only the DC units are repairable. Do not be afraid to look inside—open the case with a hack saw—if you can repair

The Experimenters Bench

it, glue the case back together with RTV silicon rubber compound. Some actually have cases that are held together with self-tapping screws.

The earliest wall wart



This bell transformer was (I believe) available in the 1960's and was probably the first of the wall warts.

Out of my junk box



I found ten different wall warts—AC & DC and one regulated version. In the process of checking them out, I logged the specifications and did a simple voltage regulation test on each.

Specifications and regulation data

Wall Wart Specs

10 WALL WARTS OUT OF MY JUNK BOX									
PRIMARY VOLTAGE = 120VAC									
TEST FREQUENCY = 60Hz									
PIECE #	POWER	STATED SECONDARY VOLTAGE V	RATED LOAD CURRENT	NO LOAD SECONDARY VOLTAGE	% REGULATION	NOTES			
1	40VA	12 VAC	3.3A	14.14 VAC	17.8	Bell Transformer			
2	12W	9 VAC	780mA	10.74 VAC	19.3				
3	17W	12 VAC	830mA	14.6 VAC	21.7				
4	10W	9 VAC	555mA	10.1 VAC	12.2				
5	4W	7.8 VAC	450mA	10.51 VAC	34.7				
6	5W	12 VAC	130mA	19.48 VAC	62.3	NICAD charger app			
7	10W	15 VDC	350mA	19.92 VDC	32.8				
8	4W	5.1 VDC	700mA	5.13 VDC	0.6	Switcher, USB plug			
9	25W	12 VDC	800mA	17.07 VDC	42.3				
10	5W	9 VDC	200mA	16.15 VDC	79.4				

wall warts voltage regulation

Voltage regulation (no load to full load) for AC adapters ranges from 12 to 34%. For DC adapters, it is roughly double that or 32 to 80%. This may be seen in the regulation data. The DC adapters have inferior regulation due to the peak detection effect of the input filter capacitor—this is not a serious issue because nothing really operates at no-load, not does anything actually work on AC without rectifiers. For frame of reference (because % regulation tends to be confusing), 0% is perfect and 100% indicates that the voltage drops to half when loaded. Just keep in mind that wall warts tend to be sloppy and the equipment to which it is connected is designed to accept double the specified input voltage safely.

For experimentation, I like the AC versions because I can connect a voltage doubler rectifier to get much higher voltages. Also, if connected to half-wave rectifiers, I can easily obtain \pm voltages.

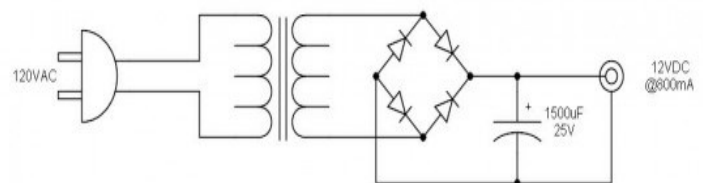
A look inside #9

Wall Wart Disassembled



This nice unit was held together with self-tapping screws—just inviting me to take a peek inside. Visible are the transformer, rectifiers and filter capacitor. Absent is a safety bleeder—after the unit is turned off the large capacitor stores a substantial charge for many minutes. An arc occurs if the barrel connector happens to short against conductive material.

Schematic for #9 wall wart



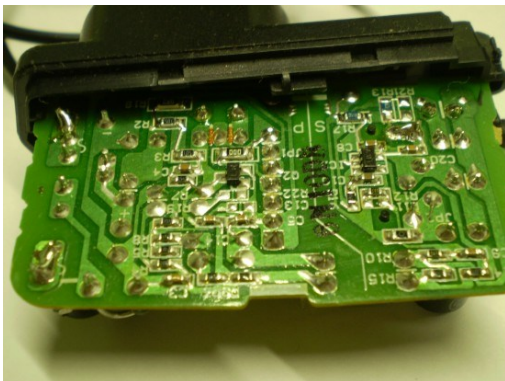
Wall Wart Schematic

A look inside #8



Visible on the top: X capacitor (right), input rectifiers (2 of the 4 are visible), split bus capacitors, noise filter inductor, switching transistor (Q1), 145°C end of life thermal fuse behind (Q1), ferrite E-core transformer, opto-coupler for feed-back (left foreground), Schottky rectifier (left), output capacitor (left), and L-C filter (left).

Switcher Bottom



Visible on the bottom: SOT23-5 op amp (right central) and many size 0603 SMD components. No schematic on this one—too complex to trace out for this exercise.

Bench test set-up



Connector trick



Connection Detail

Folding the proper stranded wire size back and inserting it into the barrel connector hole is a simple means of making electrical connection for the purpose of evaluation or experimentation.

Surprises

The regulation was worse than I expected especially the DC versions. But the real surprise came from my setup. Did you see the huge 225W Ohmite potentiometer I used for an adjustable load? Well, it took me the longest time to figure out why the pot settings were so different between the AC and DC tests. It turned out to be the reactance of the potentiometer when used as a low-voltage AC load. In fact, the inductive reactance was substantially higher than the resistance and had a profound effect upon the load. It is in effect a low Q air core toroid. I may have studied well and had tons of experience, but do I know it all? no way! Still learning...

ONE GLARING OVERSIGHT!

I hope that some influential person in the industry notices this and actually does something about it-while all wall warts have their specifications clearly indicated, no equipment anywhere (NONE-ZILCH) ever seems to indicate the specifications of the compatible wall wart. How must stuff we are unnecessarily adding to the waste stream each year due to this stupid oversight?



B Battery Stories
The 1/92nd Field Artillery
Association - Vietnam

B Btry 1/92nd FA
LZ Vera

by **Lawrence R. Seeley**
Rifleman with A Co., 1 st Battalion, 35th Infantry, 3rd
Brigade, 4th Infantry Division

"If it was not for the gallant effort, support, and bravery from the men of Battery B, 1st Bn, 92nd Artillery and God I would not be here to give my account of that night."



Lawrence Seeley
w/106mm in background

My name is Larry Seeley; I was a rifleman with A Company, 1st Battalion, 35th Infantry, 3rd Brigade, 4th Infantry Division at the time that LZ Vera came under attack. I was awarded the Army Commendation Medal with "V" Device in the defense of LZ Vera 13 th November to 15 th November 1968 . I was wounded on the 14 th of November when LZ Vera came under attack by mortar/artillery/rocket. With others who were wounded remained to help defend the LZ. Before I can give my account of the action, I would like to give some history up to and including the night of 13 th No-



vember 1968. Some of this may differ from [accounts](#) that have been written.

On the early afternoon of 23 October 1968, "A" Company was notified that it was to perform a combat assault (C/A) into an area not far from the Cambodian border (approximately 2-3 kilometers). We were to set up a company size fire base and run short range patrols (SRPs). This was in response to an intelligence report of a build up of enemy forces across the border. What we did not know at the time was that the 24 th NVA Regiment with elements from the Viet Cong were part of the build up. The name given to the fire base was LZ Vera. If I remember the map correctly LZ Vera was set up on a long abandoned Montonard Village hence the burm and trench area.

Approximately 200 meters from the perimeter and down a slight incline there was a stream approximately waist deep. It was used for bathing and for getting drinking water (letter home 30Oct 68). My defensive position faced towards the stream. My sleeping bunker was about 15ft from there. On the first day SRP teams were sent out and from radio contact over night had reported movement around them.

A few days latter I'm not sure of the date we had 106 mm recoilless rifle teams came to LZ Vera. One was set up at my position. During the day we would lower it down and at night it was set back. Only afterwards did we learn, that intelligence reported that the NVA was massing armor across the boarder. "A" company continued to set up the fire base; barbed wire, tangle foot wire and claymore mines were set in place. SRPs continued reporting movement. On one of the patrols, a friend of mine was ambushed when they discovered VC/NVA setting up a mortar position. None of the members returned to "A" Co after they were evacuated. Another patrol was ambushed when they came across people clearing an area. It was reported the clearing size was large enough that a helicopter could land.

On 26 October 1968 two companies from the 3/8 th arrived at LZ Vera. The fire base was expanded to battalion size. "A" company was put under their control. Do to the lack of latrines, and places to put them; someone had one built not even 10ft in front of a defensive position. Elements from the 1/10 th tanks were coming to our area. On the way one of them was damaged by a land mine and was towed in to LZ Vera for repairs. That evening while I was on guard duty someone tried to get in. I fired one round from my M-79 grenade launcher. The movement stopped and the [next](#) morning a blood trail was found but no body. A few days latter the tanks left and we didn't see them again. Some time after this, C Battery 2/9 th arrived.

From that point on patrols were increased but less contact was made. There were an increasing number of reports of unidentified air craft flying from and near the Cambodian border. At one point one of the air craft was shot down. Because of the thickness of the vegetation it wasn't found. I had written a letter home on the 3 rd of November that we haven't seen any action. It has appeared that the NVA was pulling back over the border. What we had been finding were stashes of equipment left behind. At the watering hole a bunker had been built and a water purification system put in place to accommodate the increase of personal. I know from spending nights there, we heard movement around us and some splashing in the water on either side of us. We were unsure if it was an animal or people but reports were made.

On 10 November 1968 my friend and platoon leader SSgt Jose Garcia was killed when his patrol was ambushed. Reports put it that they were ambushed by 10 NVA. Danny Banister, one of the survivors, mentioned to me that it seemed to be a lot

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Mess Hall

to be a lot larger number. We received word that 3rd platoon will go out and recover 2 bodies from ambush site. Early on 11 November 1968 we went out to the ambush site and recovered SSgt Garcia's body. We searched the area looking for the second body and could not find it. We received word that the second body had walked in at the LZ. On the way back we left one SRP team out in the area (my friend Hubert Hyde was on that team). Upon our arrival back at the LZ, late that afternoon, we learned that the two companies from the 3/8 th were pulled out. The artillery also was pulled out. I can remember the face of Captain Wankee; he was trying to figure how to cover a three company perimeter with one company. It was determined latter that we were surrounded by the 24 th NVA Regiment.

On 12 November 1968 we saw more artillery arriving at the LZ. Extra ammunition and other munitions were arriving also.

Joe Basonto, Walley Walquest, and I built a mini ammo bunker by our position. Capt Wankee stopped by to check our positions. I remember telling him I had a bad feeling something was going to happen. I also told him that there was some yellow bastard staring at me. I never did find his exact location but I could feel him. That night I was on guard duty by myself at the 106mm position until relieved by one member of the 106mm crew. To the left of my position was Joe Basonto in his bunker, to his left farther down was Harry Cartee, to the left of my position was Danny Banister, I'm sorry I don't remember all their names but I can see their faces.

NOTE: I wrote the above time line because I don't know how much information the 1/92 nd Field Artillery Association has about LZ Vera.

13 November 1968

I had just gotten off of guard duty at midnight . I was in my sleeping bunker for a short time when the first rounds started coming in. Since the 81mm mortars were next to my sleeping bunker I thought they had a fire mission. Then I heard screams and people shouting out for the medics and others yelling incoming. I grabbed my flack jacket, steel pot, my grenade launcher, and ammo.

For those who don't know, an M -79 grenade launcher was also known as a blooper. It fired a single 40mm grenade up to 400 yards. There was hardly any sound when it was fired.



When I left my sleeping bunker there was an explosion near the mortar pits, I took off toward my position and another round went off near me. It seemed that they had the area zeroed in. I stopped by a couple of sleeping bunkers getting the guys out and up to the bunker line. From there I went and checked on the 106mm crew. I didn't find anyone there but a round was jammed in the breach. I found out that an explosive charge was thrown over the wall and took out the crew. One man got it in the back of head and the position was abandoned. From there I went over and checked up on Joe. When I got there Joe told me to watch my step, there was someone in front of him behind the latrine tossing charges at him. Joe had thrown sandbags over the explosives that landed in the trench. I tried to take him (the enemy) and his position out with my grenade launcher, but being made out of dirt filled ammo crates I did little damage. I told Joe I needed to check on Cartee, he told me that he noticed two explosions near his position (in front of 1/92 nd position) and thought he might be dead. Joe told me that he need more ammo and hand grenades, I told him I would get it. From there I went and checked on Banister and on any other positions I could. Banister was ok but thought he saw flashlights near the wire. I had noticed that I hadn't heard the machine guns firing. I made it down to their position and found them inside the bunkers on the floor.

I was told that they had jammed and couldn't be cleared (I am not sure if these were the ones that were sent in for repairs a few weeks earlier). Each of the positions I went to asked the same questions. What's going on? Have I heard anything? We had no contact with the Command Post (CP). I made my way up to the CP and found Capt Wankee and made my report. He told me that the perimeter had been breached and we had gooks inside!

There were gun ships on the way and to tell the men to hold their positions. Anything in front of them was to be shot at. I made my way back to the bunkers and passed the word along. I got to the ammo bunker,



got as much I could carry and passed it out, and at each position, I passed on the orders I had received. When I made it back to Joe I had only few hand grenades left and I was about out of ammo. Joe asked me if I could get him a case of hand grenades. I got him the case he asked for; he was determined to get the guy that was still lobbing charges. I found two other guys with grenade launchers, we got more ammo, and we made our way back to Joe's position.

We laid on our backs near my sleeping bunker and tried to act like a mortar. We lobbed grenades out in front of Joe's position until somebody tried zeroing on us. The explosions came close so we split up. I made my way back to Capt Wankee's position and gave him my report and was given additional orders to pass on. Along the way back to the bunker line I came across an M-16 and two bandoliers of ammo and picked it up. When I got back to Joe's position, I saw a flashlight come on by the wire and took it out with my M-79. Joe thought that there was someone still in front of him and wanted more hand grenades.

After what seemed forever, a spooky gunship arrived and started working the area over with its miniguns and illuminated the area. That was the most beautiful sight in the world, especially when it's dark.

Finally daylight came and we started to check out the area. Capt Wankee came down to our area. Capt Wankee told me I had to turn in the M-16; I told him when I was done with it. The guy that Joe had a problem with was still there and we were about to go over the sandbags to check him out and his legs moved. Capt Wankee tried to get him to surrender, but when he lifted his weapon, we opened fire. Someone climbed over the sandbags, crawled up behind the latrine and dropped a hand grenade on top of him. At the area where I had shot out the light we found an M-79 grenade launcher and a pile of grenades but no body.

I found Cartee in the morning and he related this to me. When the assault started his area was hit hard. He saw one gook come up and toss a grenade down the barrel of the 90mm recoilless rifle and explodes. Next thing he knew he was to be over run. He heard a whooshing noise and was exiting his bunker when there was an explosion. He said that he covered himself with some sandbags fearing that a hand grenade would be tossed in. He heard the gooks talking above him then they left. He also stated that he laid there for a short time before he made it to another bunker. I asked him how bad he was wounded. He turned around and his flack jacket saved his back. But the back of his legs had cuts down them. I reported this to Capt Wankee, who had him evacuated.



There was a sleeping bunker near B Battery; it had 3 or 4 men in it from the 1/35 th at the time of the attack. One of the men in there his name was Radowski (I

did not see him after that night). It had an antenna with a California flag attached to it. The antenna made it look like a command bunker. That antenna was used for a radio that one of the guys had. The sappers were already inside the perimeter when the men tried to leave it. Two of them were shot when they came out the entrance, the 3 rd man pushed out the sand bag in the back. He noticed 3 sappers standing there and emptied his M-16 on the center person. This caused the explosive he was carrying to explode killing all 3 of them. The rest of the day was spent cleaning up the area inside, cleaning weapons, and checking the perimeter for any of the enemy, and of course dodging the incoming rounds.

14 November 1968

After spending most of the night on the bunker line we could smell the stench of rotting corpses. We couldn't bury them until the intelligence people could come out and gather information and make some identification. EOD teams came out and cleared any unexploded grenades etc. I had just checked out my sleeping bunker when we started receiving incoming rounds. I remember hearing someone yell incoming, next thing I

knew I was on the ground. I felt burning in my arm and in my knee. I could hear the guys yelling at me to get to the bunker but at first I



I couldn't get off the ground. When I looked in their direction it appeared that I was looking down a tunnel. I made it to the bunker someone said the medic was killed. With the help of the guys I patched myself up. Capt. Wankee was notified and asked if I wanted to go out on the next chopper. I told him no way if we got hit again I wanted to be there.

15 November 1968

LZ Vera came under another barrage of incoming rounds. While in a bunker a Chaplin came and asked use if we had room for him. He said he would pray for our safety. made a comment that he could pray and we would kill them. The dead or pieces of the sappers were buried in a crater near that damn latrine.



Water Hole

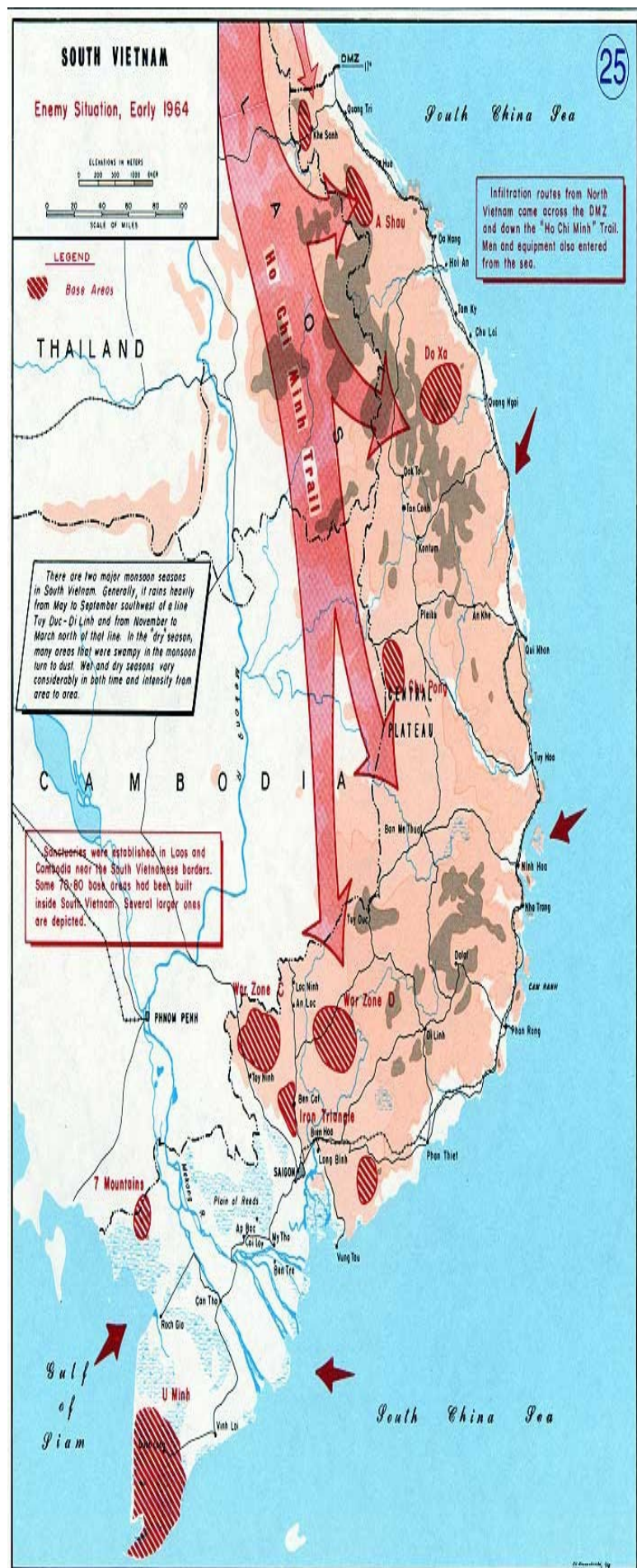
28 August 2008

Some reports said that we didn't get shelled again after the 15th of November. But I believe we were being shelled for a few days longer. I was on a patrol off of LZ Vera. Towards night fall we were so close to a mortar that we heard the bang of a round makes when it leaves a tube. We called incoming on the radio and due to the darkness we couldn't locate the exact position. The next day they were gone. I was fortunate to be in B Battery area when they received word to shell Cambodia to get the artillery that was shelling us. That was an impressive sight and wouldn't want to be on the receiving end. I also remember the night the B-52s bombed the area that the NVA artillery was in and the secondary explosions we observed.

Finally I want to thank the chopper pilots that came in and got our dead and wounded out that night.

[Larry Seeley](#)

A Co 1st BN 35th INF 4th INF Division



High Altitude Electromagnetic Pulse



EMP AREA BY BURSTS AT 30, 120 and 300 MILES

Gary Smith, "Electromagnetic Pulse Threats", testimony to House National Security Committee on July 16, 1997

Next Regular Meeting

The next meeting will be on Thursday, September 26th at 7:00PM. We meet in the Fellowship Hall of Redemption Lutheran Church, 4057 N Mayfair Road. Use the south entrance. Access the MRAC Yahoo group for important details about the February Meeting.

Meeting Schedule:

October 24th, 7 pm

Please do not call the church for information!

Club Nets

Please check in to our nets on Friday evenings.

Our ten meter SSB net is at **8:00 p.m.** at **28.490 MHz USB** Our two meter FM net follows at **9:00 p.m.** on our repeater at **145.390 MHz** with a minus offset and a **PL of 127.3 Hz.**

Visit our website at: www.w9rh.org

Or phone **(414) 332-MRAC** or **332 - 6722**



Chatter Deadline

The **DEADLINE** for items to be published in the **Chatter** is the **15th of each month**. If you have anything (announcements, stories, articles, photos, projects) for the 'Chatter, please get it to me before then.

You may contact me or Submit articles and materials by e-mail at: Kc9cmt@earthlink.net

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

Name of Net, Frequency, Local Time	Net Manager
<u>Badger Weather Net (BWN)</u> 3984 kHz, 0500	W9IXG
<u>Badger Emergency Net (BEN)</u> 3985 kHz, 1200	NX9K
Wisconsin Side Band Net (WSBN) 3985 or 3982.5 kHz, 1700	KB9KEG
Wisconsin Novice Net (WNN) 3555 kHz, 1800	KB9ROB
Wisconsin Slow Speed Net (WSSN) 3555 kHz, Sn, T, Th, F, 1830	N1KSN
Wisconsin Intrastate Net - Early (WIN-E) 3555 kHz, 1900	WB9ICH
Wisconsin Intrastate Net - Late (WIN-L) 3555 kHz, 2200	W9RTP
<u>ARES/RACES Net</u> 3967.0 kHz, 0800 Sunday	WB9WKO
* Net Control Operator needed. Contact Net Manager for information.	

VE Testing:

Sept. 28th- AES - 9:30 AM - 11 AM.

ALL testing takes place at: Amateur Electronic Supply
5720 W. Good Hope Rd. Milwaukee, WI 53223

Area Swapfests

Sept. 28th, 2013 [Ozaukee Radio Club Fall Swapfest](#) Location: Cedarburg, WI Type: ARRL Hamfest
Sponsor: Ozaukee Radio Club
Website: <http://www.ozaukeeradioclub.org>

Oct. 13th, 2013 [SEWFARS Swapfest](#)

Location: Hubertus, WI Type: ARRL Hamfest
Sponsor: Southeast Wisconsin FM Amateur Repeater Society Website: <http://www.sewfars.com>

MRAC Working Committees 100th Anniversary:

- Dave—KA9WXN
- Dan—N9ASA

Net Committee:

- Open

Field Day

Dave—KA9WXN, Al—KC9IJJ

FM Simplex Contest

- Joe - N9UX
- Jeff - K9VS

Ticket drum and drawing

- Tom - N9UFJ
- Jackie - No Call

Newsletter Editor

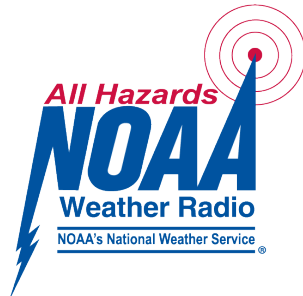
- Michael-KC9CMT

Webmaster

- Mark Tellier—AB9CD

Refreshments

- Hal—KB9OZN



Membership Information

The Hamateur Chatter is the newsletter of MRAC (Milwaukee Radio Amateurs' Club), a not for profit organization for the advancement of amateur radio and the maintenance of fraternalism and a high standard of conduct. MRAC Membership dues are \$17.00 per year and run on a calendar year starting January 1st. MRAC general membership meetings are normally held at 7:00PM the last Thursday of the month except for November when Thanksgiving falls on the last Thursday when the meeting moves forward 1 week to the 3rd Thursday and December, when the Christmas dinner takes the place of a regular meeting. Club Contact Information

Our website address <http://www.w9rh.org>

Telephone **(414) 332-MRAC (6722)**

Address correspondence to:

MRAC, PO Box 26233, Milwaukee, WI 53226-0233

Email may be sent to: w9rh@arrrl.net . Our YAHOO newsgroup:

<http://groups.yahoo.com/group/MRAC-W9RH/>

CLUB NETS:

- The Six Meter SSB net is Thursday at 8:00PM on 50.160 MHz USB
- Our Ten Meter SSB net is Friday at 8:00PM on 28.490 MHz ± 5 KHz USB.
- Our Two Meter FM net follows the Ten meter net at 9:00PM on our repeater at 145.390MHz - offset (PL 127.3)



The MRAC HamChatter is a monthly publication of the Milwaukee Radio Amateurs' Club. Serving Amateur Radio in Southeastern Wisconsin & all of Milwaukee County

Club Call sign - W9RH

MRAC Website: <http://www.W9RH.org>

Editor: Michael B. Harris, Kc9cmt, kc9cmt@Earthlink.net

Milwaukee Area Nets

Mon. 8:00 PM 3.994 Tech Net

Mon. 8:00 PM 146.865- ARRL Newsline

Mon. 8:00 PM 146.445 Emergency Net

Mon. 8:00 PM 146.865- Walworth County ARES net

Mon. 8:45 PM 147.165- ARRL Audio News

Mon. 8:00 PM 442.100+ Railroad net, also on EchoLink

Mon. 8:00 PM 442.975+ WARC W9CQ net also on EchoLink 576754

Mon. 9:15 PM 444.125+ Waukesha ARES Net on the 1st, 3rd, and 5th Monday of each month.

Mon. 9:00 PM 147.165- Milwaukee County ARES Net

Tue. 9:00 AM 50.160 6 . Mtr 2nd Shifter's Net

Tues. 8:00 PM 145.390- General Class

Tue. 9:00 PM 145.130 MAARS Hand Shakers Net

Tue. 8:00 PM 7.035 A.F.A.R. (CW)

Wed. 8:00 PM 145.130 MAARS Amateur Radio Newsline

Wed. 8:00 PM 147.045+ West Allis ARC net

Wed. 8:00 PM 147.270+ Racine County ARES net

Wed. 9:00 PM MAARS SwapNet, AllStar link to FM-38

Thur. 8:00 PM 145.130- General Class

Thur. 8:00 PM 50.160, 6 Mtr SSB Net

Thur. 9:00 PM 146.910 Computer Net

Fri. 8:00 PM 28.490 MRAC W9RH 10 Mtr Net SSB

Fri. 9:00 PM 145.390 W9RH 2 Mtr. FM Net

Sat. 9:00 PM 146.910 Saturday Night Fun Net

Sun 8:30 AM 3.985 QCWA (Chapter 55) SSB net

Sun 9:00 AM 145.565 X-Country Simplex Group

Sun 8:00 PM 146.91 Information Net

Sun 8:00 PM 28.365 10/10 International Net (SSB)

Sun 9:00 PM 146.910 Swap Net

First Thursday of the month 8:00 PM 442.200+ Round Table Tech Net

2meter repeaters are offset by 600KHz - - 70 centimeter repeaters are offset by 5 MHz

